Acta Zootaxonomica Sinica, 31 (1): 188 - 192 (Jan., 2006) ISSN 1000-0739
动物分类学报

石蛾科褐纹石蛾属二新种记述(昆虫纲,毛翅目)

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摘 要 研究了中国毛翅目石蛾科种类,并报道2新种,即莫氏褐纹石蛾 Eubasilissa morsei sp. nov. 和丽褐纹石蛾 Eubasilissa splendida sp. nov.。新种模式标本保存在南京农业大学昆虫标本馆。

关键词 毛翅目,褐纹石蛾属,新种,中国.
中图分类号 Q959.413.2

石蛾科昆虫在毛翅目中个体较大,成虫前翅长8.0～43.0 mm。成、幼虫大多颜色艳丽,引人注目,是毛翅目昆虫中最早被研究的类群之一。该科也是毛翅目中比较古老的一个类群,仅分布于古北区、新北区以及东洋区。

1998年 Wiggins 对世界石蛾科种类进行了全面修订,共记录2亚科15属74种和40个化石种,其中中国分布有7属19种。作者在2000—2002年整理了多年累积的南京农业大学毛翅目馆藏标本,新增了3个记录种(Yang et al., 2005),包括本文的2新种,及由德国学者 Mey 和本文第2作者发表的1个新种(Mey & Yang, 2001),将我国已知种增至25种,占世界区系的1/3。

莫氏褐纹石蛾,新种 Eubasilissa morsei sp. nov. (图1～5)

雄成虫前翅长35 mm。头、胸部黑褐色,额唇基和上唇黄褐色。前翅黄色,翅前缘区具6～7个黑褐色横条斑,其最长者末端达 R_{2+3} 与 R_{4+5} 分叉处;翅后缘区褐斑小而密,网纹状;翅端部1/3黑褐斑多融合,纵脉末端各具1褐斑,在翅外缘形成一褐斑带。后翅黑褐色,亚端部具1黄色宽横带,分离出翅端的黑褐色区域,其宽约为黄色横带的2/3倍。

雄虫外生殖器:第9腹节狭环状,背区略窄;腹板突侧面观末端平截,其内方的脊状突起不明显,腹面观短矩形,端缘中央微凹;后面观腹板突内方具1条横向骨化脊,端缘具3个明显的小齿突。第10节背板不分裂,背面观端缘深凹,其中长仅为侧缘长的1/2倍;内侧突缺如,外侧突细指状,侧面观长约为第10节背板之1/2倍。肛前附肢侧面观细短枝状,背面观三角形,长约为基宽的1.5倍。下附肢侧面观基肢节粗壮,长约等于基宽,端部1/3略收窄,端肢节尖三角形,长约为基宽的1.5倍;腹面观基肢节近圆柱形,长约为宽的2倍,端肢节细指状,明显窄于基肢节。阳茎基鞘后端腹叶侧面观尖三角形,长约为基宽的2.5倍;后面观短喙管形,长约为宽的2.5倍。内阳茎基鞘具1对巨大而分枝的凹槽形骨片,侧面观背枝枪弹形,垂直向上,末端尖;腹枝长条状,略长于背枝,其宽仅为背枝的1/3倍,两侧缘具微刺,末端略呈尖钩状,色深。

鉴别特征 新种属麦氏褐纹石蛾种团 maclachlani species group,雄外生殖器与印度种 E. chomolhari Schmid 和陕西秦岭种老子褐纹石蛾 E. laotzi Mey & Yang 较相似,三者的共有衍征是腹板突后面观内横脊具齿突。新种区别于后两种的主要特征:1)第10节背板内侧突缺如,2)内阳茎基鞘具1对巨大而分枝的凹槽形骨片,3)阳茎基鞘后端腹叶侧面观尖三角形,后面观短喙管形,长均约为基宽的2.5倍;而后两种第10节背板均具内侧突,内阳茎基鞘槽形骨片均不分枝;E. chomolhari Schmid 阳茎基鞘后端腹叶后面观细长柱形,长为基宽的7倍;E. laotzi Mey & Yang 阳茎基鞘后端腹叶后面观三角形,端圆,长为基宽的1.4倍,易与新种区别。

正模 ♂,陕西太白山蒿坪寺,海拔1 200 m,1973-07-09,周尧、卢筝和田铸采;副模1 ♂,甘肃文县店坝乡正沟,海拔950 m,1998-06-15,白炽灯

高等学校博士学科点专项科研基金资助项目 (20010307005).
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收稿日期:2005-10-11,修订日期:2005-10-20.

诱，孙长海和马云采。

分布：陕西、甘肃。

词源：学名以美国毛翅目专家 John Morse 博士的姓氏定名，以感谢他为本研究提供的帮助。

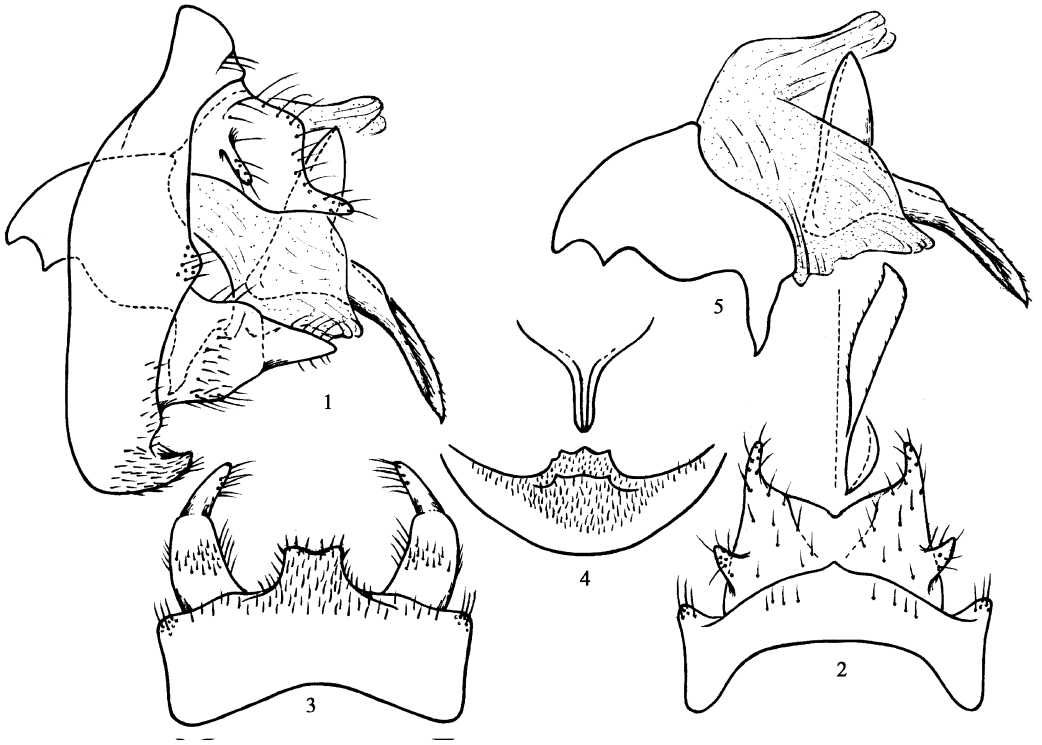

图 1～5　莫氏褐纹石蛾，新种 Eubasilissa morsei sp. nov.，雄外生殖器（male genitalia）
1. 侧面观（lateral view）　2. 背面观（dorsal view）　3. 腹面观（ventral view）　4. 后面观（caudal view）
5. 阳茎侧面观（phallus, lateral view）

丽褐纹石蛾，新种 Eubasilissa splendida sp. nov.
（图 6～10）

成虫前翅长 32～36 mm。额唇基和上唇黑褐色。前翅美丽，以深橙褐色为主，褐色网纹斑相对较其它种细而均匀，翅前缘的 5～6 条褐色条斑较窄而长，位于翅中部的 2 条有时达翅后缘，各纵脉末端具大而清晰的褐斑；雄虫翅基半部褐色斑较大，并接横脉处具 1 黑褐色大斑。后翅黑褐色，亚端部具 1 黄色宽横带，近翅后缘处收窄，翅端黑褐色，纵脉末端偶有 1～2 个淡色小黄斑。雌成虫前翅褐色斑较雄虫色深；后翅翅端浅褐色，沿纵脉末端具淡黄色斑。

雄虫外生殖器：第 9 腹节腹板突与腹缘约等长，侧面观末端似具 2 个黑色小丘状突；腹面观腹板突近方形，末端宽圆，具狭窄的腹中线凹槽；后面观腹板突内侧具 1 卵圆形锯齿区，背方具 2 条黑色短横脊。第 10 节背板具浅“V”形中裂，两侧叶亚方形，各侧叶在对角线处具 1 斜脊，斜脊内侧部分明显高于外侧；侧面观侧叶背缘略长于腹缘，端缘平截；内、外侧突均缺如。肛前附肢短小，背面观亚三角形，长约为基宽的 1.5 倍；侧面观顶端至多伸达第 10 背板的中部。下附肢侧扁，2 节，基肢节近方形，端肢节明显收窄呈指状，宽仅为基肢节的 1/2。阳茎基鞘侧面观矩形，后端腹叶粗指状，末端尖；内阳茎基鞘具 1 对长叶形槽形骨片，长约为最宽处之 3.5 倍。

本种与佛褐纹石蛾 Eubasilissa fo 较相似。但新种 1）肛前附肢短小，背面观长约为基宽的 1.5～2.0 倍；2）下附肢端肢节明显收窄呈指状，宽仅为基肢节的 1/2；3）内阳茎基鞘槽形骨片长叶形，长约为最宽处之 3.5 倍。而后者肛前附肢细长圆柱形，背面观长为基宽的 4～5 倍；下附肢基肢节的宽度远不及端肢节的 2 倍；内阳茎基鞘槽形骨片宽短，基部呈半圆形，长约为基部最宽处之 1.6 倍，易于区别。

正模 1 ♂，西藏墨脱，海拔 2 750 m，1982-08-23，韩寅恒采。副模：2 ♂♂，2 ♀♀，四川九寨沟，2 600 m，2002-08-13，石福明采；1 ♀，四川松藩黄龙镇，2000-08-16，灯诱，周长发采；1 ♀，云南维西攀天，海拔 2 500 m，1981-07-24，张学忠采；1 ♀，云南小中甸，海拔 3 200 m，1984-07-31，范建国采。

分布：西藏、四川、云南。

词源：**种名以本种深橙褐色为主的美丽前翅而　　定名。**

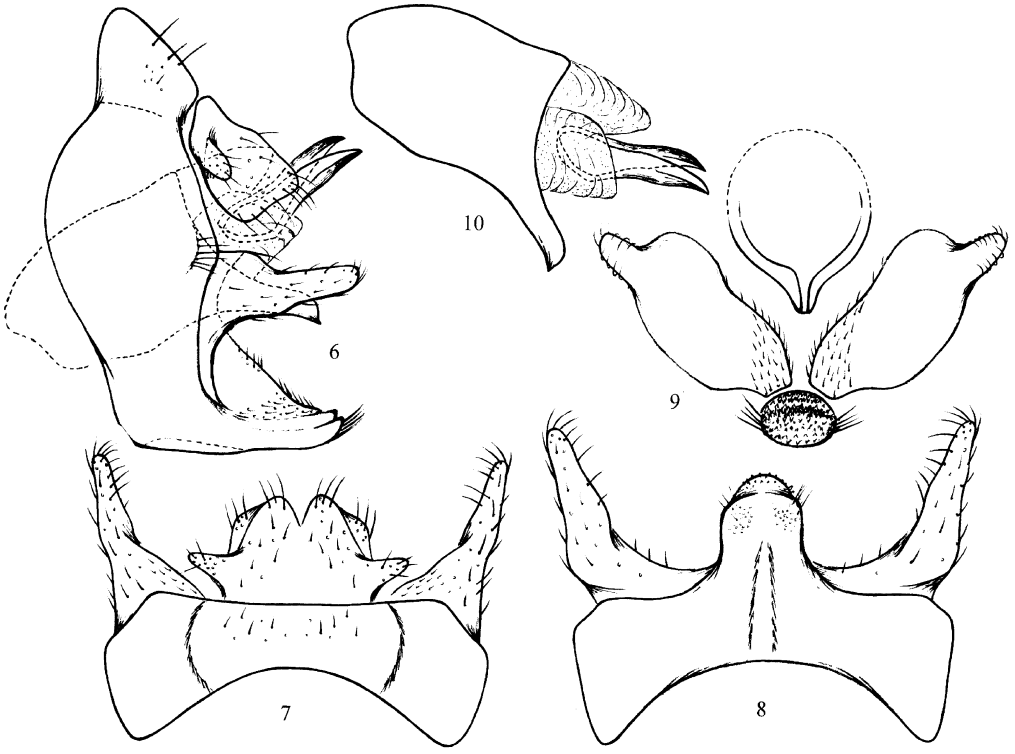

图 6～10　丽褐纹石蛾，新种 Eubasilissa splendida sp. nov.，**雄外生殖器**（male genitalia）

6. **侧面观**（lateral view）　7. **背面观**（dorsal view）　8. **腹面观**（ventral view）　9. **后面观**（caudal view）

10. **阳茎侧面观**（phallus, lateral view）

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TWO NEW SPECIES OF PHRYGANEIDAE (INSECTA, TRICHOPTERA) FROM CHINA

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Abstract Seventy-four species of the family Phrygaeidae have been reported all over the world with nineteen of them in China (Wiggins, 1998). Four additional species were found later in this country (Mey & Yang, 2001; Yang et al., 2005). In this paper, two new phryganeid species in the genus, Eubasilissa are described and figured from China. Now there are 25 caddisfly species of the family known in China, being about one-third of the phryganeid species of the world. The type specimens of the new species herein are deposited in the insect collection of Nanjing Agricultural University.

Eubasilissa morsei sp. nov. (Figs. 1-5)

Length of fore wing 35 mm. Head and thorax dark brown, frontoclypeus and labrum yellowish brown. Fore wing with 6-7 irregular transverse dark brown blotches across anterior half; more densely reticulate in posterior half, finer and lighter at the apical one-third. Hind wing dark brown, with a broad, subapical yellow band crossing the wing.

Male genitalia. Segment IX with posteroventral edge extended backward in ridged rectangular lobe with median ridge not obvious in lateral view; in ventral view, posteroventral edge raised into a median lobe bearing three apical points. Tergum X with deep apical excision, not divided mesially, posteromesal processes absent, posterolateral processes finger-like, about one half as long as tergum X in lateral view. Preanal appendages slender, in lateral view, but short triangular in dorsal view. Inferior appendages two segmented, basal segment very stout, the terminal segment triangle with acute apex in lateral view. Phallotheca with sclerotized posteroventral apical lip slightly sinuate triangular in lateral view, stout digitate in caudal view, each about 2.5 times as long as wide; membranous endotheca bearing a pair of huge, branched sclerites, the dorsal branch vertical, broad lobe, the ventral branch long and slender, bearing fine spines on the edges

Remarks. This species is closely related to Eubasilissa chomolhari Schmid from Indian and E. laotzi Mey & Yang from Shaanxi, China in sharing the similar posteroventral process of IX, but the new species differ from the latter two species in: 1) tergum X with posteromesal processes absent; 2) endotheca sclerites each widely branched; 3) phallotheca with sclerotized posteroventral apical lip stout, digitate, about 2.5 times as long as wide in caudal view, instead of slender, 7 times as long as wide as in E. chomolhari, or triangular, 1.4 times as long as basal width as in E. laotzi from caudal view.

Distribution. Shaanxi, Gansu.

Holotype ♂, Haoping Temple, Taibai Mountain (33.5° N, 107.5° E), Shaanxi Province, alt. 1 200 m, 9 July 1973, coll. ZHOU Yao, LU Zhen and TIAN Zhu. Paratype 1 ♂, Zhenggou, Dianba Village, Wenxian County, Gansu Province, alt. 950 m, 15 June 1998, coll. SUN Chang-Hai and MA Yun.

Etymology. This species is named in honor of Dr. J. Morse, for his great contribution to the taxonomy of Trichoptera in China.

Eubasilissa splendida sp. nov. (Figs. 6-10)

Length of fore wing 32-36 mm. Frontoclypeus and labrum dark brown. Fore wing dark orange brown, generally with much fine reticulation than other species, 5-6 irregular, narrow transverse blotches across anterior half, 2 of the median blotches sometime extending to the posterior margin. Hind wing dark brown, with a, broad, submarginal yellow band almost crossing the wing with posterior end strongly narrowed, terminal of each longitudinal vein with small light yellow patch.

Male genitalia. Segment IX with posteroventral edge extended backward, ended in two dark points, with obvious median ridge in lateral view; in ventral view, posteroventral edge in subquadrate lobe, with raised oval lobe bearing tiny tooth like points. Tergum X with shallow "V" shaped apical excision, posteromesal and posterolateral processes absent. Preanal appendages short, narrow triangular, in dorsal view, at most extending to the mid of X in lateral view. Inferior appendage two segmented, basal segment very stout, 2 times as broad as the distal segment in lateral view. Phallotheca with long sclerotized lip, pointed at apex, endotheca bearing a pair of long, concave leaf like sclerites, about 3.5 times as long as its basal width.

Remarks. This species is closely related to Eubasilissa fo Schmid from Tibet and N. Yunnan in sharing the similar posteroventral process bearing two dark apical projections, but can be easily distinguished

from the latter by: 1) preanal appendages short triangular, at most 2 times as long as basal width, in stead of long cylindrical, at least 4-5 times as long as its basal width in the latter, in dorsal view; 2) inferior appendage with basal segment very stout, 2 times as broad as the distal segment in lateral view; 3) endotheca sclerites very long, 3.5 times as long as its basal width, in stead of a pair of short sclerites, with its basal 1/3 enlarged in semicircular in the latter.

Distribution. Tibet, Sichuan, Yunnan.

Holotype ♂, Motuo (29.1°N, 95.2°E), Tibet, 2 750 m, 23 Aug. 1982, coll. HAN Yan-Heng. Paratypes: 2 ♂♂, 2 ♀♀, Jiuzhaigou, Sichuan, alt. 2 600 m, 13 Aug 2002, coll. SHI Fu-Ming; 1 ♀, Songpan, Huanglong, Sichuan, 16 Aug. 2000, coll. ZHOU Chang-Fa; 1 ♀, Weixipantian, Yunnan, alt. 2 500 m, 24 July 1981, coll. ZHANG Xue-Zhong; 1 ♀, Xiaozhongdian, Yunnan, alt. 3 200 m, 31 July 1984, coll. FAN Jian-Guo.

Etymology. The species is named after the Latin word "splendidus", referring to the colorful orange of the fore wings.

Key words Trichoptera, Eubasilissa, new species, China.